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of antelopes. It feeds upon all kinds of corn and several varieties of green herbage. Though naturalists now speak of the Antelopes as a distinct species, Cuvier considered them but as a variety of the goat tribe, of which the Ibex formed the connecting link. The Ibex is not unlike the *Leucoryx* in appearance, frequenting the mountainous ridges of Switzerland and Savoy in vast numbers.

In reference to the animal under consideration, it may be said to differ from the Ibex rather in external than in anatomical form. Each species would, probably, breed with the other; it is extremely difficult to say where the sheep ends and the goat begins, and no less so to declare what difference really exists between the Antelope and the Ibex.

The Abyssinian Ibex is somewhat more elevated on the legs than the *Leucoryx*, of a dirty, brownish, fawn colour, with a short beard, and lengthened hair under the throat down to the breast.

The Caucasian Ibex.—M. Guldenstadt first described this species, which he discovered in the northern part of the Caucasian mountains. In size and proportions, it resembles the Ibex of Europe, but is broader and shorter in the body; dark brown on the superior parts, and white on the inferior. The hair of this species is hard, more ashy in winter, and at the root interspersed with much grayish underwool. This species of Ibex is equal, if not superior, in strength and agility, to the Alpine, making immense bounds with the utmost confidence. Monardes relates that he saw an Ibex leap from the top of a tower, and falling on its horns, immediately spring up and move on, without having received the slightest injury. It resides in the Caucasian mountains, and is probably found in the highest mountains of eastern Persia.

The *segragus* is another species distinguished from the former by the horns forming an acute angle in front, with the ribs less broad, assuming an undulating edge, and the posterior part rounded.

NATURAL FORMATION OF SOIL.

Nothing can be more truly beautiful in itself or more deeply interesting to a reflecting mind, than the process by which nature constantly produces an accession of soil, and an accumulation of vegetable matter to render it fertile. The process is varied so as to be exactly adapted to overcome the obstacles which the circumstances which each particular district present; but although the means employed are infinitely various, the final result is always the same. When the surface of a rock, for instance, becomes first exposed to the atmosphere, it is at once attacked by agents which operate mechanically and chemically. Light calls into activity the latent heat; the pores become, by that means, sufficiently enlarged to admit particles of moisture, which gradually abrade the surface and produce inequalities; upon these inequalities the seeds of lichens are deposited by the atmosphere; these forerunners of vegetation take root, and the fibres by which some sorts of these diminutive plants adhere to the rock, concoct a vegetable acid peculiarly adapted to corrode the substance with which it comes in contact, and increase the inequalities which heat and moisture had already formed. These diminutive plants decay and perish; when decomposed they form a vegetable bed suited to the production of larger plants; or when the surface of the rock happens to present clefts, or natural crevices, they fall into them; and there mingling with fine particles of sand, conveyed thither by the atmosphere, or crumbled by the action of the air from the internal surfaces of the crevices themselves, they form fertile mould. Nature having advanced thus far in her preparations, makes another forward step. She sows the soil which has been created by the decomposition of vegetable matter, with some of the more perfect plants, which it is now becomes capable of sustaining. These continue to be produced and decomposed until a soil has been prepared of sufficient depth and richness to bear plants of still higher quality and larger dimensions. The process of nature acquires accelerated force as it advances toward its consum-

mation. When a sufficient depth of soil has been formed to produce ferns, for instance, these annually decay and die; their decomposed materials gradually form little conical heaps of vegetable mould round the spot on which each plant grew. When this has gone on for a period of sufficient length to spread these cones over a given surface, nature takes another stride: she sows furze, thorns, and briars, which thrive luxuriantly, and by annually shedding their leaves contribute, in the end, to add greatly to both the depth and fertility of the mould. This species constitutes, in truth, the means which nature principally uses in preparing a bed for the growth of the more valuable trees. It is well known that these are the plants which make their first appearance in fallows, or in woods which have been recently cut down. Into the centre of a tuft of brambles, is accidentally carried the seed of the majestic oak; meeting with a congenial soil, it soon vegetates: it is carefully and effectually cherished and protected by its prickly defence, against all injuries from the bite of the animals which roam over the waste. The larger trees having reached a height and size which render shelter unnecessary, destroy their early nurses and protectors, by robbing them of the light and air indispensable for their well-being. The thorny plants then retire to the outskirts of the forest, where, in the enjoyment of an abundant supply of light and sun, they continue gradually to extend the empire of their superiors, and make encroachments upon the plain, until the whole district becomes at length covered with magnificent trees. The roots of the larger trees penetrate the soil in all directions: they even find their way into the crevices of the rocks, filled, as these are already, by decomposed vegetable matter: here they swell and contract, as the heat and moisture increase or diminish. They act like true levers, until they gradually pulverize the earthy materials which they have been able to penetrate. While the roots are thus busy under ground, boring, undermining, cleaving and crumbling every thing that impedes their progress, the branches and leaves are equally indefatigable overhead. They arrest the volatile particles of vegetable food which floats in the atmosphere. Thus fed and sustained, each tree not only increases annually in size, but produces and deposits a crop of fruit and leaves. The fruit becomes the food of animals, or is carried into a spot where it can produce a new plant: the leaves fall around the tree, where they become gradually decomposed, and, in the lapse of ages, make a vast addition to the depth of vegetable mould; and whilst the decomposition of vegetables makes a gradual addition to the depth of the cultivatable soil, another cause, equally constant in operation, contributes to increase its fertility—the produce of the minutest plants serves to subsist myriads of insects: after a brief existence, these perish and decay, and their decomposed particles greatly fertilize the vegetable matter with which they happen to mingle. The period at length arrives when the timber having reached its highest measure of growth and perfection, may be cut down, in order that the husbandman may enter upon the inheritance prepared for him by the hand of the all-wise and all-beneficent Author of his existence. Such is the system, which they that have eyes to see may see. Plants which appear worthless in themselves—those lichens, mosses, heaths, ferns, furze, briars, and brooms, in which *economists*, forsooth! perceive only the symbols of eternal barrenness—are so many instruments employed by perfect Wisdom in fertilising new districts for the occupation of future generations of mankind:

“The course of Nature is the art of God.”

The wastes of this country, as they have been managed for ages, have been partly taken out of the hands of Nature without having been wholly taken into the hands of man. The constant depasturing of cattle on wastes and commons counteracts the means which Nature makes use of in producing fertility, and, in consequence, greatly retards the period when the soil becomes sufficiently deep for agricultural purposes. There is not, perhaps, a healthy waste in England, which would not become a forest, were the peasantry restrained from setting their flocks upon it.